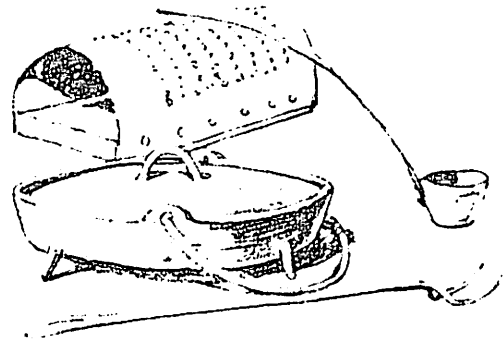
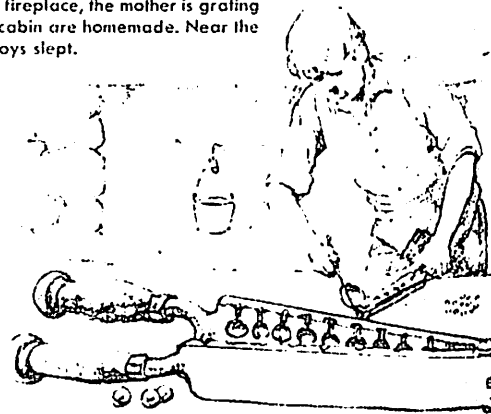


# Pioneer Tools

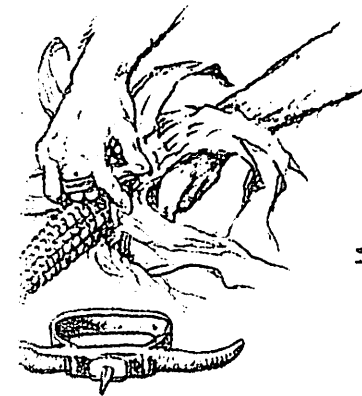
The pioneer cabin was a workshop as well as a home. By the light from the fireplace, the mother is grating corn while the father repairs a farm tool. All furnishings of this typical log cabin are homemade. Near the door, long pegs in the wall form a ladder leading to a loft where the boys slept.



**Iron Cooking Utensils** were prized by pioneer women. Most housewives brought a tight-lidded baking kettle, center, from the East. Also shown are a corn grater, a ladle, and a toasting fork.

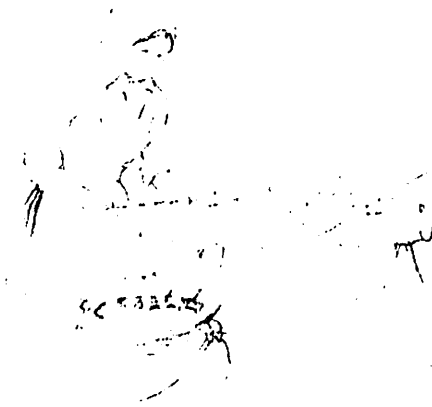


**Molding Rifle Bullets** required skillful handling of hot lead. A frontiersman liked to mold his own bullets, so he could be sure they would fit exactly into the barrel of his rifle.

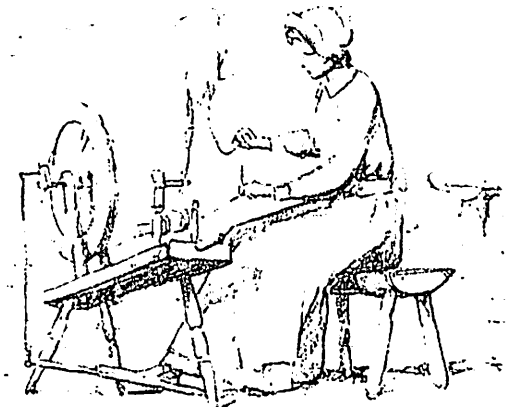


**A Corn Husking Party** brightened settlement life at harvest time. The ears of corn were divided into equal piles. Neighbors formed teams that competed to see which could husk a pile first. A settler used a husking pin, left, to tear the husks from the corn.

WORLD BOOK Illustrations by Lorence F. Bjorklund

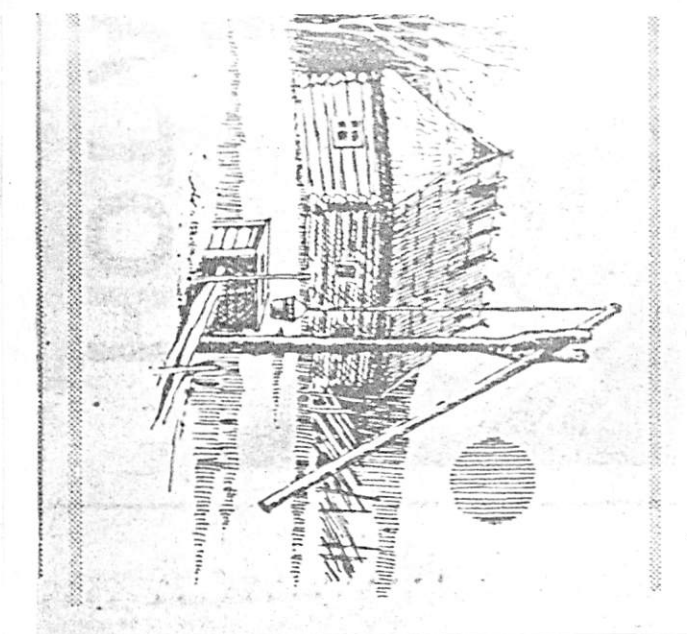
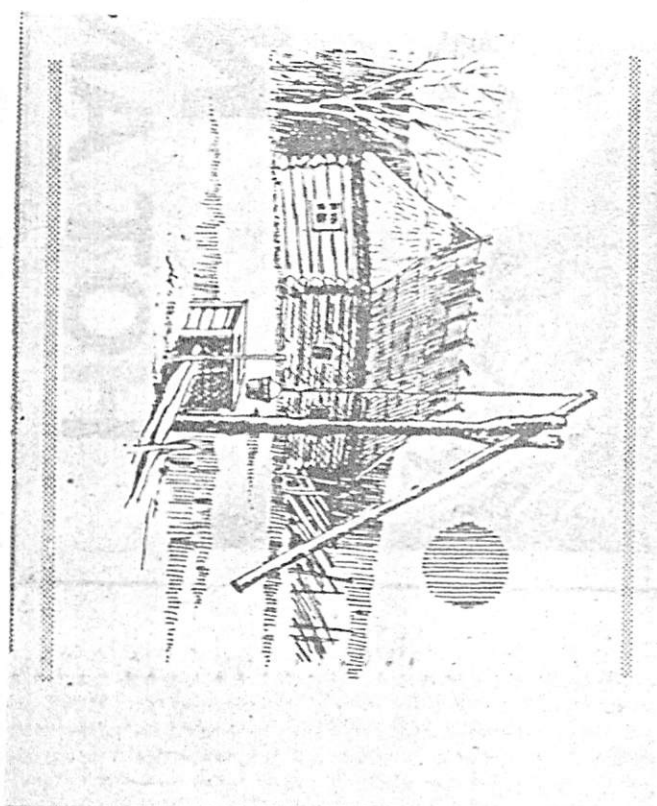


**Making Candles** was a job for the women and girls. They used string or strips of cloth into wicks, dipped them repeatedly in hot animal fat, then hung them to cool and harden.



WORLD BOOK Illustrations by Lorence F. Bjorklund

**A Spinning Wheel**, brought from the East, became a treasure on the frontier. The lucky housewife who had one could spin the yarn she needed to make cloth for her family's clothing.



## PLOW



Brian Brake, Rapho Guillumette

**Egyptian Farmers** tilled their fields with wooden walking plows in 1500 B.C. They used oxen to pull the plows.



John Deere

**The Sulky Plow** allowed farmers to ride while they plowed. John Deere, an Illinois blacksmith, invented this plow in 1875.

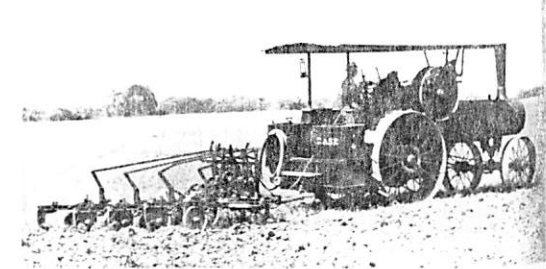
slow plowing in soils that *scour* (slide cleanly off the moldboard). A *general-purpose* moldboard has a longer curve, which makes it useful for average scouring conditions and plowing speeds. A *high-speed* moldboard has an even longer curve and can plow at higher speeds without throwing the soil too far to the side. A *slatted* moldboard consists of long curved steel slats. Sticky soils flow off this type of moldboard because they have such a small area to cling to.

**Other Types of Bottoms** provide greater efficiency than moldboards in certain situations. For example, the bottom of a *disk plow* consists of a disk-shaped blade designed to till hard, sticky, or stony land. The *chisel plow* has narrow, C-shaped bottoms. Chisel plows lift the soil without turning it over, leaving crop residue on the surface where it can prevent wind erosion. A *rotary plow* has many bent rotating blades that mix residue with the soil.



Detail of *American Farm Scenes #1: Spring* (1853), a hand-colored lithograph by Frances Palmer, printed by Nathaniel Currier; National Collection of Fine Arts, Smithsonian Institution

**The American Plowman** in 1853, like the ancient Egyptians, used a plow pulled by oxen. But his plow had a steel bottom.



J. I. Case

**Steam-Powered Plows**, such as this 110 Steamer, came into use in the early 1900's. They were costly and hard to repair.

## History

The people of most prehistoric civilizations never tilled the soil. When planting, they merely punched holes in the ground with a stick to bury the seed and hide it from birds and rodents. Then, more than a million years ago, man discovered that plants grew better in soil that had been loosened. He began to use such objects as sharp sticks, rocks, bones, or shells to pry loose chunks of dirt.

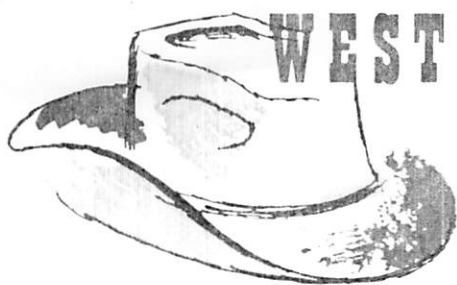
Man made the first plow about 8,000 years ago. A farmer sharpened one prong of a forked branch to turn the soil and probably hitched his wife to the other prong. He guided the implement by holding on to the stump of the branch while his wife pulled. Later, he

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used oxen to pull the plow, and a pointed iron spade replaced the bottom prong.

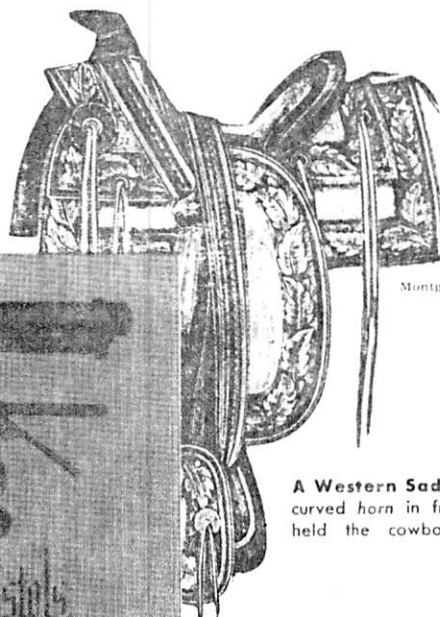
WESLEY F. BUCHHEIT

See also DEERE, JOHN; FARM AND FARMING; WOOD, JETHRO.



# WESTERN FRONTIER LIFE

Famous Names of the West included John Stetson, maker of wide-brimmed hats, and Sam Colt, whose pistol was "the gun that won the West."



Montgomery Ward

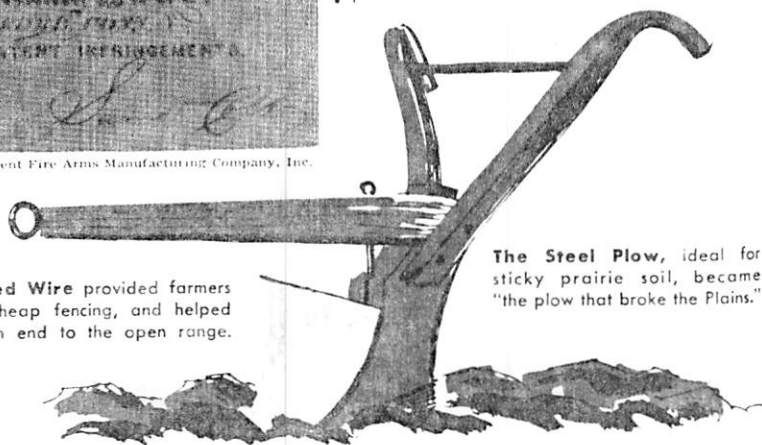
A Western Saddle had a curved horn in front, which held the cowboy's lariat.



Colt's Patent Fire Arms Manufacturing Company, Inc.



Barbed Wire provided farmers with cheap fencing, and helped put an end to the open range.



The Steel Plow, ideal for sticky prairie soil, became "the plow that broke the Plains."

**WESTERN FRONTIER LIFE** marks one of the most exciting chapters in American history. The settlement of the West represented the dreams of gold-hungry prospectors, and of homesteaders whose back-breaking labor transformed barren plains into fields of grain. It is the story of cowboys and the open range. It is the drama of Indians and outlaws, of the trains and stagecoaches they attacked, and of the citizens who brought order to the frontier. It is a living tradition that symbolizes to men and women everywhere the American achievement of taming a wild and beautiful land.

The far western frontier appeared about 1850, and vanished about 1890. Adventurous settlers had crossed the Appalachian Mountains during the 1700's and pushed through the Cumberland Gap in the 1770's. They built homes along the Mississippi River a few

years later. Traders and scouts reached the Pacific Coast in the early 1800's. But the area west of the Mississippi—"the last frontier"—did not attract many settlers until after 1850. The final period of western settlement lasted from 1850 to 1890. For the complete story of western expansion in the United States, see **WESTWARD MOVEMENT**.

The western frontier produced many colorful figures. Some, such as Jesse James and Billy the Kid, symbolize outlaws who "died with their boots on." Others, such as Wyatt Earp and "Wild Bill" Hickok, gained fame as fearless defenders of law and order. "Buffalo Bill" Cody—scout, Indian fighter, and showman—probably did more than anyone else to create interest in the old West. Other men, though less well-known, did more to develop the area itself. Charles Goodnight, a fiery



## PLOWMAN'S DAWN

*By*

Chesta Holt Fulmer

*Photograph by Dr. J. B. Pardoe*

THERE is a glory of the day  
That city dwellers can not know,  
When night, in silence, steals away,  
When sunshine comes and shadows go.

THE early plowman in the field  
Lifts up his eyes to coming morn,  
And reverently he stays his task  
And watches as the day is born.

THE very trees seem now to stand  
More silently, as if in prayer,  
The song of birds is hushed and still,  
There is a glory in the air.

HE STANDS this moment silently,  
His feet pressed deep into the sod,  
The city dweller can not know  
Such unity of man—and God.

